

Draft

Environmental Impact Report

and

Environmental Impact Statement

for the proposed

Mesquite Mine Expansion

Imperial County, California

SCH. No. 98121054 / BLM No. 40204

Prepared by the

County of Imperial
Planning & Building Department

and



Bureau of Land Management
California Desert District

August 2000

Draft
Environmental Impact Report /
Environmental Impact Statement (EIR/EIS)

for the Proposed

Mesquite Mine Expansion

State Clearinghouse No. 98121054

BLM No. CA-40204

Applicant:
Newmont Gold Company
1700 Lincoln Street
Denver, Colorado 80203

Prepared By:

U.S. Department of the Interior
Bureau of Land Management

Tim Salt
District Manager
California Desert District

County of Imperial
Planning and Building Department

Jurg Heuberger
Planning Director
County of Imperial

August 29, 2000

Dear Reader:

We are pleased to provide the Draft Environmental Impact Report and Environmental Impact Statement (EIR/EIS) for the proposed Mesquite Mine expansion project for your review and comment. The proposed project would be located on public lands, state lands and private lands in eastern Imperial County, approximately 5 miles east of Glamis, north and west of SR-78. The proposed expansion comprises enlargement of several pits, waste rock piles, and heap leach pads, encompassing nearly 700 acres, of which 190 acres require new permits. The purpose of this document is to provide information to the public, as well as the cooperating and responsible agencies regarding the environmental consequences of expanding the existing open-pit, heap-leach, precious metal mine. Various technical reports have been prepared which have been used in the preparation of this Draft EIR/EIS and some are attached as appendices. Copies of all of the referenced technical reports are available for review at the Imperial County Planning/Building Department and the Bureau of Land Management (BLM) office in El Centro, California. The Draft EIR/EIS can be reviewed at the listed local libraries in the attachment.

To facilitate review, this document has been prepared as an Environmental Impact Report (EIR) in compliance with the California Environmental Quality Act (CEQA) and implementing regulations and guidelines. The County of Imperial is the Lead Agency for the purpose of compliance with the requirements of CEQA for the proposed Mesquite Mine expansion.

This document has also been prepared as an Environmental Impact Statement (EIS) in compliance with the National Environmental Policy Act (NEPA) and implementing regulations. The Bureau of Land Management is the Lead Agency for the purpose of compliance with the regulations of NEPA for this proposed expansion.

Comments concerning the adequacy of this Draft EIR/EIS will be considered in the preparation of the Final EIR/EIS. The Final EIR/EIS will be used in the determination of approval or denial of the various discretionary actions by BLM and the County. A Record of Decision (ROD) will be prepared by the BLM but not until after BLM has received the Biological Opinion from the U.S. Fish & Wildlife Service. The County will review the Conditional Use Permit and Reclamation Plan for the proposed mine expansion.


A combined federal and state public review period of 60 days has been established for this draft document. Due to a change in the printing date, please disregard the August 8, 2000, date within the document. Written comments on the environmental document will be accepted by BLM and the County until 5:00 p.m. on October 30, 2000, and should be sent to the addresses listed below.

Bureau of Land Management
1661 South 4th Street
El Centro, CA 92243

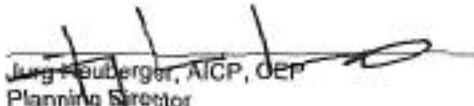
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939 Main Street, Suite B-1
El Centro, California 92243

For internet users, you may also review the document on the Internet at www.ca.blm.gov/elcentro/mesquite/. In addition, a public hearing will be held after the public comment period to receive verbal and written testimony on January 10, 2001 by the County Planning Commission in El Centro, California.

For information concerning the non-federal aspects of the EIR, including comments on the draft EIR, contact Jurg Heuberger, AICP, CEP, Planning Director at (760) 482-4236, extension 4310; for information concerning the federal aspects of the project, including comments on the draft EIS, contact Kevin Marty, BLM at the El Centro field office at (760) 337-4422.


Tim Salt
BLM District Manager
California Desert District

JHOG/RC/BLM/sms/Dennis


Jurg Heuberger, AICP, CEP
Planning Director
Imperial County Planning/Bldg. Dept

29 Agosto, 2000

Estimado Lector:

Nos da gusto de proporcionar los siguientes documentos; Reporte Ensayo de Impacto Ambiental y Ensayo de Declaración de Impacto Ambiental (Draft EIR/EIS), para proporcionar el proyecto de la expansión Mesquite Mine para que usted pueda examinar y comentar. El proyecto propuesto será colocado en tierras públicas, tierras de estado, y tierras privadas al este del Condado de Imperial, aproximado 5 millas al este de Glamis, norte y oeste de SR-78. La expansión propuesta abarca ampliación de varios bancos de materiales, desperdicio de piedra, y drenaje de campo (heap leach pads) abarcando cerca de 700 acres, de los cuales 190 acres requieren nuevos permisos. El propósito de éste documento es para proporcionar información al público, como también a las agencias cooperativas y responsables en cuanto a las consecuencias ambientales de la expansión de bancos de materiales, drenaje de campo (heap leach pads), y mina de metal precioso. Varios reportes técnicos se han preparado, de los cuales se han utilizado en la preparación de éste Ensayo EIR/EIS, y algunos se han sujetado como apéndices. Copias de todos los reportes técnicos son disponibles para examinar en la lista de bibliotecas incluida, y también disponibles en el Departamento Planeación y Construcción de el Condado de Imperial y la Agencia de Administración de Tierras (BLM), en El Centro, California.

Para facilitar examinación de éste documento se a preparado un Reporte de Impacto Ambiental (EIR) en sumisión con el Acto Ambiental de Calidad de California (CEQA) y regulaciones implementarias. El Condado de Imperial es la Agencia encargada para el propósito de sumisión con los requisitos de el Acto Ambiental de Calidad de California (CEQA) para la expansión propuesta Mina Mesquite.

Éste documento también a sido preparado como Declaración de Impacto Ambiental (EIS) en sumisión con el Acto Ambiental de la Póliza Nacional (NEPA) y regulaciones implementarias. Agencia de Administración de Tierras (BLM) es la Agencia encargada para el propósito de sumisión con la regulaciones de NEPA para el propósito de sumisión con las regulaciones de NEPA para la expansión propuesta.

Comentarios referente a éste documento Reporte Ensayo de Impacto Ambiental y Ensayo de Declaración de Impacto Ambiental (Draft EIR/EIS) serán considerados en la preparación del Final EIR/EIS. El Final EIR/EIS será usado en la determinación de aprobación o negación de varias acciones discriminatorias por BLM y el Condado. Una decisión grabada (ROD) será preparada por la Agencia de Administración de Tierras (BLM) pero no hasta despues que BLM alla recibido la Opinión Biológica de el Departamento de Pesca y Vida Salvaje de los Estados Unidos. El Condado revisara el Permiso de Uso Condicional y Plan de Reclamación para la expansión de la propuesta de mina.

Se a establecido una examinación pública por un periodo de 60 días, combinada de federal y estado para éste documento. Debido a un cambio en la fecha de impreta, favor de pasar por alto la fecha 8 de Agosto, 2000, dentro el documento. Comentarios por escrito sobre el documento ambiental serán aceptados por BLM y el Condado hasta las 5:00 p.m., 30 de Octubre, 2000, y tienen que ser enviados a los siguientes domicilios.

Bureau of Land Management
1661 South 4th Street
El Centro, CA 92243

Imperial County Planning/Building Dept.
939 Main Street, Suite B-1
El Centro, CA 92243

También se puede examinar el documento por Internet a www.ca.blm.gov/elcentro/mesquite/. Adicionalmente, habra reuniones públicas despues de el periodo de comentarios públicos para recibir testimonios verbales en 10 de Enero, 2001, Comisión Planificación del Condado en El Centro, California.

Para información referente a los aspectos no-federales del EIR, incluso comentarios de el Reporte Ensayo de Impacto Ambiental (Draft EIR), porfavor de contactar a Jurg Heuberger, AICP, CEP, Director de Planeación y Construcción al (760) 482-4236, extensión 4310; Para información referente a los aspectos federales de el proyecto, incluyendo comentarios del Ensayo de Declaración de Impacto Ambiental (Draft EIS), porfavor de contactar a Kevin Marty, BLM de El Centro, California al (760) 337-4422.

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FOR THE
MESQUITE MINE DRAFT EIR/EIS**

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Yuma, AZ 85364

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Mesquite Mine Expansion Project, Imperial County, California
Federal Mine Plan of Operations Approval, Imperial County
Conditional Use Permits and Reclamation Plan Approval
Draft Environmental Impact Report / Environmental Impact Statement

Lead Agencies:

U.S. Department of the Interior
Bureau of Land Management
California Desert District
El Centro Resource Area

County of Imperial
El Centro, California

Prepared By:

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Jurg Heuberger, Director
Imperial County Planning and Building
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El Centro, CA 92243
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Written Comments Due: Oct. 27, 2000

Abstract:

Newmont Gold Company (Newmont) proposes to expand mining and processing of ore and waste rock (overburden/interburden, O/I) in and near their existing Mesquite Mine. The Mine site is located at the southern end of the Chocolate Mountains, approximately 33 miles east of the City of Brawley, in eastern Imperial County.

The existing Mine site encompasses 5,200 acres, of which 3,655 acres have been disturbed by mining activities to date. Prior permits issued by BLM and the County of Imperial allow mining or related disturbance on 4,962 acres. Proposed new facilities include expansions of existing mine pits,

diversion channels to keep surface waters from flowing into the pits, heap leach pad areas for removal of the gold from the ore, and overburden/interburden storage areas (OISAs) for storage of waste rock. Total acreage of these areas in the Proposed Action is 693 acres, of which only 190 acres represents new disturbance areas for which new permits will be required. The remaining 503 acres are areas that were previously permitted, or were previously disturbed by ancillary mining activities. Approximately 89 million tons of gold ore would be processed, and 242 million tons of overburden/interburden would

be moved. Approval of this expansion would allow the Mine to continue to operate through 2006, instead of closing in 2001.

Approximately 20% of the Proposed Action expansion areas are located on private land. Another 13% are within California State lands north of the existing Mine site. The remaining 67% of the proposed expansion area is within BLM-managed lands.

Cumulative impacts to visual resources are anticipated, in conjunction with the planned and approved but unbuilt Mesquite Landfill adjacent to the Mine. Cumulative PM₁₀ (fugitive dust) air quality impacts are anticipated because of the area's nonattainment status for that pollutant. No other unmitigated direct, indirect, or cumulative impacts of the Proposed Action have been identified.

Alternatives to the Proposed Action have been identified in accordance with CEQA and NEPA guidelines. One other feasible alternative (Reduced Footprint Alternative) was addressed in this EIR/EIS. Other possible alternatives were identified, but were found to be infeasible and were eliminated from further consideration.

The Reduced Footprint Alternative would forego development of the proposed Big Chief West OISA, and would reduce the sizes of the East Rainbow North OISA and the East Rainbow South OISA by a total of 45 acres. This alternative would reduce the area of new land to be disturbed by storing approximately 90 million tons of waste rock (of the projected 240 million tons to be generated in proposed excavations) in the existing mine pits.

Under the No Project/No Action alternative, expansion of the proposed facilities would not occur, but mining and processing of ore would continue for a short time. Mining would continue in the Vista and Big Chief pits, overburden / interburden would be placed to their permitted limits on the existing OISAs, and leaching of gold from the ore would continue at the permitted heap leach pads.

Benefits associated with the Project are primarily social and economic in nature. If the expansion is approved, it is anticipated that the Mine will remain open an additional six years. This will provide continued employment for the existing work force, as well as an additional 20-30 new employees. This will increase local income levels

and local governmental revenues. In addition, trust funds managed by the State Lands Commission will receive additional mineral extraction royalties.

Numerous other governmental actions, decisions and approvals will have to occur before expansion of the Mine can proceed. These actions include:

- Endangered Species Act, Section 7 Consultation between BLM and U.S. Fish & Wildlife Service
- U.S. Fish & Wildlife Service to review the Biological Evaluation, and issue Biological Opinion
- National Historic Preservation Act, Section 106 Consultation between the BLM and the California Office of Historic Preservation (completed)
- BLM to approve Mine Plan of Operations
- U.S. Army Corps of Engineers to approve an individual permit to dredge or fill Waters of the United States
- BLM to publish a Record of Decision on this EIS
- California Dept. of Game and Fish to review the Biological Evaluation, issue a CESA Incidental Take Permit, and a Streambed Alteration Agreement (Section 1603)
- California Regional Water Quality Control Board to decide whether to amend Waste Discharge Requirements for discharge of waste to land; also to approve a Certificate of Compliance with Section 401 of the Clean Water Act
- California State Lands Commission to review/ approve a Mineral Extraction lease
- Imperial County Board of Supervisors to certify this EIR, and approve a Mitigation Monitoring and Reporting Program; also approve a Conditional Use Permit amendment/Reclamation Plan for Mine expansion, approve a Conditional Use Permit amendment for continued use of water from the Mesquite Mine well field.
- Modification to existing Authority to Construct and Permit to Operate from the Imperial County Air Pollution Control District

Mesquite Mine Expansion EIR/EIS

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Mesquite Mine Expansion EIR/EIS
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EXECUTIVE SUMMARY

Purpose of This Document

This draft Environmental Impact Report/Environmental Impact Statement (EIR/EIS) addresses the potential impacts and mitigation measures for construction and operation of the proposed Mesquite Mine Expansion. This document is being prepared as an EIR in compliance with the California Environmental Quality Act (Public Resources Code, Section 21000, et seq., herein, “CEQA”), the Guidelines for the Implementation of CEQA (CCR Section 15000, et seq., herein “State CEQA Guidelines”), and the Imperial County CEQA Guidelines, as amended. The County of Imperial is the lead agency for the purpose of compliance with the requirements of CEQA for the Proposed Action.

This document is also being prepared as an EIS in compliance with the National Environmental Policy Act (Public Law 91-90, 42 U.S.C. 4321 et seq., herein “NEPA”) and the implementing Council on Environmental Quality (CEQ) Regulations (CFR Sec. 1500-1508). The Bureau of Land Management (BLM) National Environmental Policy Handbook (H-1790-1) was also consulted in preparing this document. The BLM is the lead agency for the purpose of compliance with the requirements of NEPA for the Proposed Action.

This EIR/EIS examines the potential environmental impacts of excavating additional pits to obtain and process known gold ore in or adjacent to the existing Mine site.

Proposed Action

Newmont Gold Company (Newmont) proposes to expand mining and processing of ore and waste rock (overburden/interburden, O/I) in and near their existing Mesquite Mine. The Mine site is located at the southern end of the Chocolate Mountains, approximately 33 miles east of the City of Brawley, in eastern Imperial County. The general location of the Mine site is shown in Figure S-1.

The existing Mine site encompasses 5,200 acres, of which 3,655 acres have been disturbed by

mining activities to date. Prior permits issued by BLM and the County of Imperial allow mining or related disturbance on 4,962 acres. Proposed new facilities include expansions of existing mine pits, diversion channels to keep surface waters from flowing into the pits, heap leach pad areas for removal of the gold from the ore, and overburden/interburden storage areas (OISAs) for storage of waste rock. Total acreage of these areas in the Proposed Action is 693 acres, of which only 190 acres represents new disturbance areas for which new permits will be required. The remaining 503 acres are areas that were previously permitted, or were previously disturbed by ancillary mining activities. New areas that would be disturbed by mining activity under the Proposed Action are shown in Figure S-2. Approximately 89 million tons of gold ore would be processed, and 242 million tons of overburden/interburden would be moved. Approval of this expansion would allow the Mine to continue to operate through 2006, instead of closing in 2001.

Approximately 20% of the Proposed Action expansion areas are located within private land. Another 13% are within California State lands north of the existing Mine site. The remaining 67% of the proposed expansion area is within BLM-managed lands.

Alternatives

Alternatives to the Proposed Action have been identified in accordance with CEQA and NEPA guidelines. One other feasible alternative (Reduced Footprint Alternative) was addressed in this EIR/EIS. Other possible alternatives were identified, but were found to be infeasible and were eliminated from further consideration.

Reduced Footprint Alternative

An alternative that would disturb approximately 47 acres less of unpermitted, undisturbed land than the Proposed Action was also evaluated. This Alternative is designated the “Reduced Footprint” Alternative. It would forego development of the proposed Big Chief West OISA, and would reduce the sizes of the East Rainbow North OISA and the

East Rainbow South OISA by a total of 45 acres. This alternative would reduce the area of new land to be disturbed by storing approximately 90 million tons of waste rock (of the projected 240 million tons to be generated in proposed excavations) in the existing mine pits.

No Project / No Action Alternative

Under this alternative, expansion of the proposed facilities would not occur, but mining and processing of ore would continue for a short time. Mining would continue in the Vista and Big Chief pits, overburden / interburden would be placed to their permitted limits on the existing OISAs, and leaching of gold from the ore would continue at the permitted heap leach pads.

Impacts That Cannot Be Mitigated

Cumulative impacts to visual resources are anticipated in conjunction with the planned and approved but unbuilt Mesquite Landfill adjacent to the Mine. Cumulative PM₁₀ (fugitive dust) air quality impacts are anticipated because of the area's nonattainment status for that pollutant. No other unmitigated direct, indirect, or cumulative impact of the Proposed Action has been identified.

Summary of Project Impacts

The environmental consequences of the Proposed Action and its alternatives are evaluated in Chapter 4 of this EIR/EIS for each of the 12 elements of the human environment identified through the scoping process. No significant impacts to the following critical elements of the human environment would occur for any of the project alternatives.

- Air Quality (mitigated)
- Areas of Critical Environmental Concern
- Cultural Resources
- Farm Lands
- Floodplains
- Native American Religious Concerns
- Threatened or Endangered Species (mitigated)
- Hazardous or Solid Wastes
- Water Quality
- Wetlands/Riparian Zones
- Wild and Scenic Rivers
- Wilderness

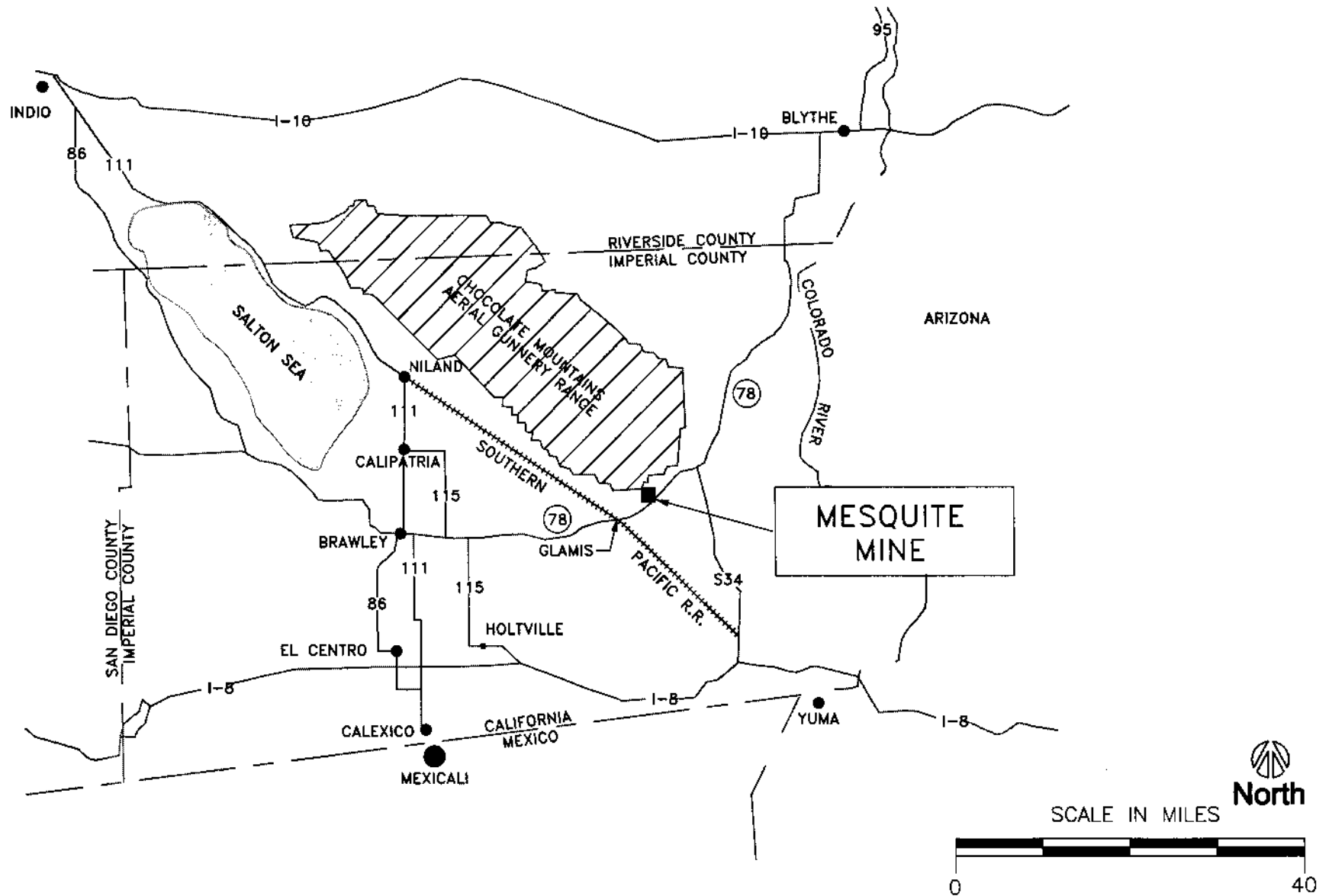
Chapter 4 includes a discussion of mitigation measures that would eliminate impacts or would reduce them to a level less than significant.

Table S-1 summarizes the environmental effects of the Proposed Action and its alternatives. The table addresses the potential impacts that are expected to occur, their significance, recommended mitigation measures, and resulting level of significance after implementation of the mitigation measures.

Other Federal, State, and Local Actions

Numerous other governmental actions, decisions and approvals will have to occur before expansion of the Mine can proceed. These actions include:

- Endangered Species Act, Sec.7 Consultation between BLM and U.S. Fish & Wildlife Service
- U.S. Fish & Wildlife Service to review the Biological Evaluation, and issue Biological Opinion
- National Historic Preservation Act, Section 106 Consultation between the BLM and the California Office of Historic Preservation (completed)
- BLM to approve Mine Plan of Operations
- U.S. Army Corps of Engineers to approve an individual permit to dredge or fill waters of the United States
- BLM to publish a Record of Decision on the EIS
- California Dept. of Game and Fish to review the Biological Evaluation, issue a CESA Incidental Take Permit, and a Streambed Alteration Agreement (Section 1603)
- California Regional Water Quality Control Board to decide whether to amend Waste Discharge Requirements for discharge of waste to land; also to approve a Certificate of Compliance with Section 401 of the Clean Water Act
- California State Lands Commission to review/approve a Mineral Extraction lease
- Imperial County Board of Supervisors to certify this EIR, and approve a Mitigation Monitoring and Reporting Program; also approve a Conditional Use Permit amendment/Reclamation Plan for Mine expansion, approve a Conditional Use Permit amendment for continued use of water from the Mesquite Mine well field.
- Modification to existing Authority to Construct and Permit to Operate from the Imperial County Air Pollution Control District



SOURCE: Newmont Mining Corporation, 1999

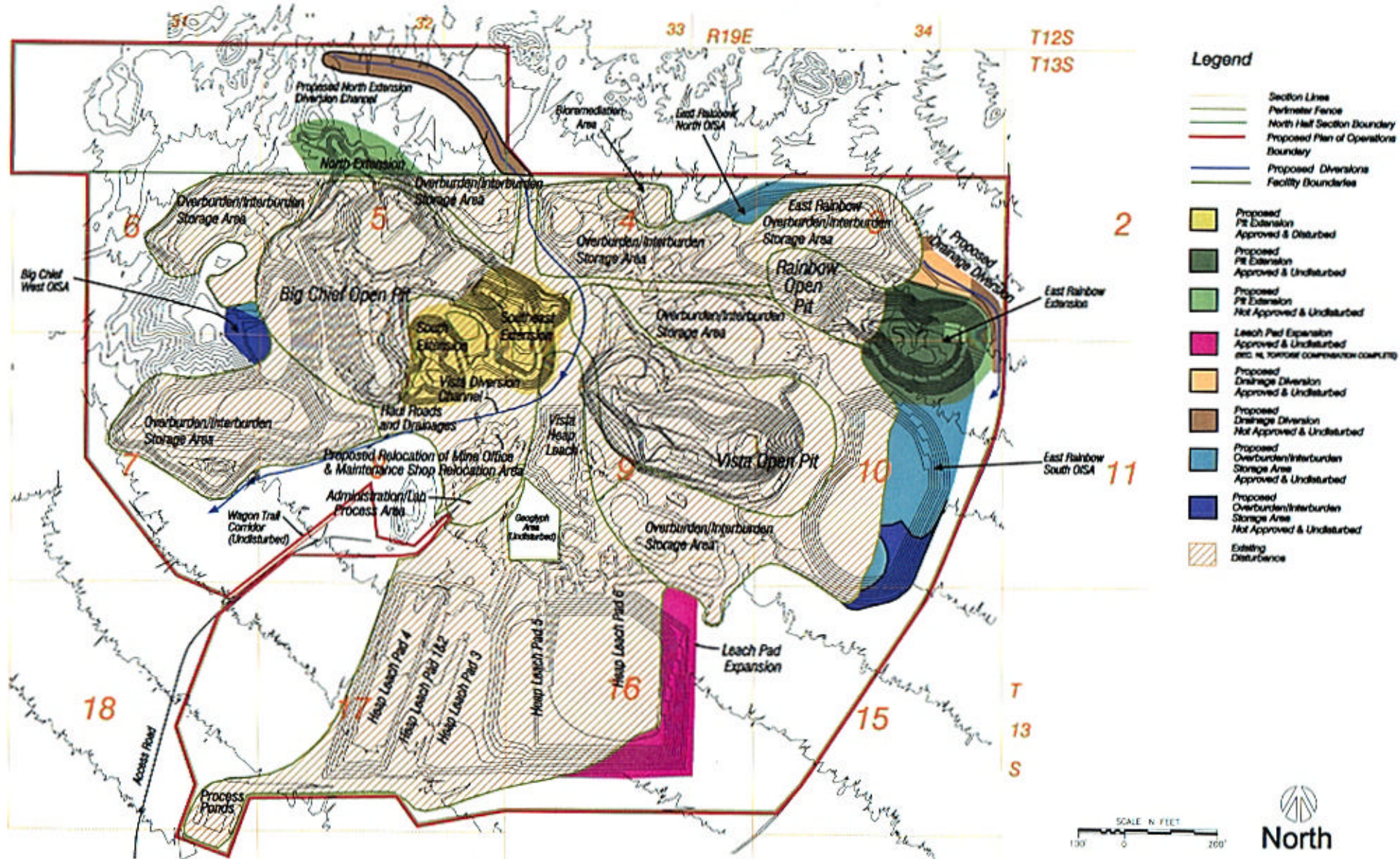
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Mesquite Mine Expansion EIR/EIS

Regional Location Map

FIGURE

S-1



SOURCE: Newmont Mining Corporation, 2000

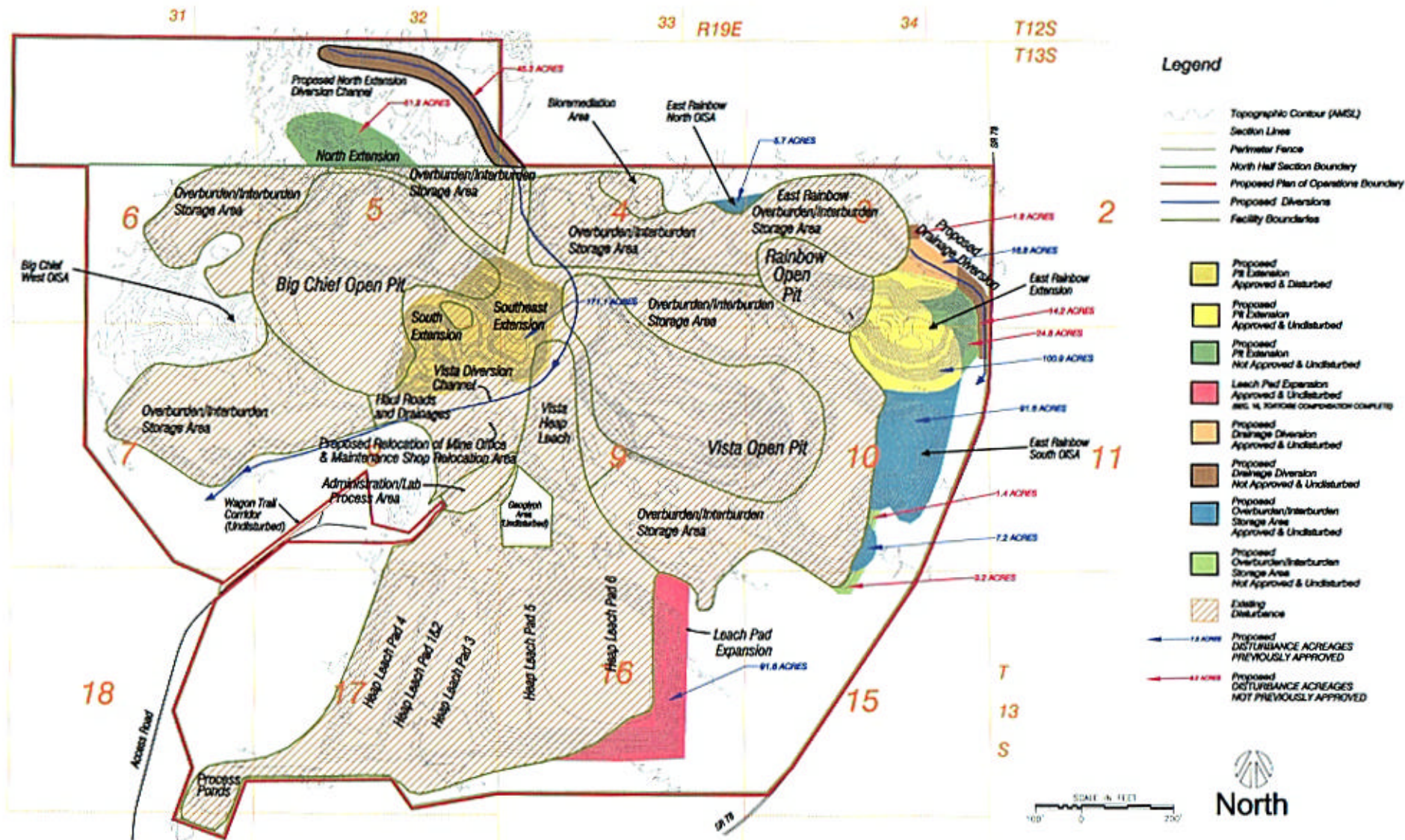
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Mesquite Mine Expansion EIR/EIS

Proposed Action

FIGURE

S-2



SOURCE: Newmont Mining Corporation, 1999

7/7/00

Mesquite Mine Expansion EIR/EIS

Reduced Footprint Alternative

FIGURE

S-3

Table S-1
Summary of Potential Environmental Effects and
Mitigation Measures, Proposed Mesquite Mine Expansion

Impact, by Environmental Topic	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
Geology, Soils and Mineral Resources			
<u>Proposed Action</u> Possible erosion on OISA and leach pad slopes.	S	Best Management Practices (BMP's) for control of erosion would be implemented, as part of the Stormwater Pollution Prevention Plan required by General Stormwater Permit.	NS
Possible erosion in new Diversion Channels and in existing desert washes downstream from them.	S	Same as above. Also... Applicant to ensure that peak flow conditions in off-site washes are substantially the same as what would have occurred without the presence of the Mine. Applicant shall incorporate stable channel configurations and/or protection such as riprap to limit erosion of diversion ditches not associated with the expansion.	NS
Potential damage to Mine facilities from earthquakes.	S	Applicant shall design pit wall configurations in conformance with SMARA requirements. Pit slope parameters will be determined and reviewed by California-registered civil engineers, with appropriate safety factors based on their professional experience. Pit design information will be submitted for review to the California Dept. of Conservation, Office of Mine Reclamation. Final decisions about pit design parameters will be made by the County of Imperial, delegated this authority under SMARA. Benches shall be provided in pit walls at regular intervals to catch minor sliding/raveling. Applicant and their engineers will consider to ensure pit slope stability include 1) unloading the top of the slope; 2) providing buttresses for steep slopes; 3) backfilling waste rock at the base of excavated slopes.	NS

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Table S-1 (continued)
**Summary of Potential Environmental Effects and
Mitigation Measures, Proposed Mesquite Mine Expansion**

Impact, by Environmental Topic	Level of Signifi- cance Without Mitigation	Mitigation Measures	Level of Signifi- cance With Mitigation
Geology, Soils and Mineral Resources (continued)			
<u>Reduced Footprint Alternative</u> Impacts similar to those of the Proposed Action.	S	Same as identified for the Proposed Action.	NS
<u>No Project/ No Action Altern.</u> Possible erosion impacts similar to those of the Proposed Action	S	Best Management Practices (BMPs) for control of erosion are being implemented as part of the existing Stormwater Pollution Prevention Plan for the NPDES permit	NS
Water Resources			
<u>Proposed Action</u> It is possible that significant erosion and resulting sedimen- tation could occur in the diversion channels and downstream.	S	The Applicant shall incorporate the following water protection features into the proposed construction, operation and closure of the expansion, as required by CCR Title 27 mining regulations administered by the Colorado River RWQCB. <ul style="list-style-type: none"> • Design and construct diversion and drainage facilities to accommodate precipitation conditions associated with the 100-year precipitation event. • Ensure that peak flow conditions in off-site washes are substantially the same as what would have occurred without the presence of the Mine. • Design and construct the East Rainbow and Vista diversion channels to discharge flows at approximately the same locations and flow rates that occur presently or which historically occurred prior to development of the Mine diversion system. • Repair abnormal erosion and take steps to prevent further occurrence in a timely manner 	NS

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Table S-1 (continued)
Summary of Potential Environmental Effects and
Mitigation Measures, Proposed Mesquite Mine Expansion

Impact, by Environmental Topic	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
Water Resources (continued)			
<u>Proposed Action (continued)</u> Fluids utilized in the heap leach process could potentially escape and pollute ground water.	S	<ul style="list-style-type: none"> The heap leach pad expansion shall be constructed with a low permeability liner system to contain process fluids. The heap leach pad expansion shall be operated with monitoring systems to allow detection of potential process fluid leakage in the subsurface. The leach pad expansion shall be closed in a manner such that, after closure, it no longer poses a threat to water quality. 	NS
Proposed Action may impact up to 25 acres of Waters of the U.S., under Army Corps of Engineers (ACOE) jurisdiction. Actual number of acres affected will be determined by ACOE.	S	<ul style="list-style-type: none"> Applicant shall mitigate impacts to Waters of the U.S. as determined by the ACOE within the concurrent Section 404 process. It is anticipated that such mitigation will involve preservation of an appropriate acreage of Waters within the proposed compensation area for desert tortoise habitat. 	NS
Fuels and other bulk liquids used on site could potentially spill and result in pollution of surface or ground waters.	S	<ol style="list-style-type: none"> Applicant will store fuels and other bulk liquids with the potential to contaminate ground water in aboveground containers within containment areas. <ul style="list-style-type: none"> Containment structures shall be designed by a Registered Civil Engineer, and construction shall be supervised and certified by a Registered Civil Engineer or a Certified Engineering Geologist. 	NS

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Table S-1 (continued)
**Summary of Potential Environmental Effects and
Mitigation Measures, Proposed Mesquite Mine Expansion**

Impact, by Environmental Topic	Level of Signifi- cance Without Mitigation	Mitigation Measures	Level of Signifi- cance With Mitigation
Water Resources (continued)			
<u>Proposed Action (continued)</u> Erosion from new OISAs could potentially result in downstream sedimentation.	S	<ul style="list-style-type: none"> Applicant shall construct and operate the proposed expansion facilities in accordance with the California General Permit for Stormwater (NPDES). These requirements include implementing a Stormwater Pollution Prevention Program incorporating BMPs. The OISAs shall be closed in a manner that will minimize erosion and the threat of water quality degradation from sedimentation. 	NS
Evapoconcentration of minerals and elements in the pit lake waters could potentially pollute groundwater resources. However, the analysis shows that the pits will act as “sinks”, pulling in water from adjacent strata, and evaporating it. The waters will not flow the other way.	NS	None required.	NS
<u>Reduced Footprint Alternative</u> Impacts similar to those of the Proposed Action.	S	Same as identified for the Proposed Action, except that fewer acres of Waters of the U.S. would need to be preserved under this alternative.	NS

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Table S-1 (continued)

Summary of Potential Environmental Effects and
Mitigation Measures, Proposed Mesquite Mine Expansion

Impact, by Environmental Topic	Level of Signifi- cance Without Mitigation	Mitigation Measures	Level of Signifi- cance With Mitigation
Water Resources (continued)			
<u>No Project/No Action Alternative</u> Impacts would be similar to those of the Proposed Action, except that no additional waters of the U.S. would be affected, and there would be no expansion of OISAs or heap leach pads beyond the levels and locations already allowed by permit. In addition, the facility after closure would not require the 1,500 acre-feet per year of water that would be needed for the Proposed Action.	S	Best Management Practices (BMPs) for control of erosion are being implemented as part of the existing Stormwater Pollution Prevention Plan for the NPDES permit. In addition, measures to preclude water pollution from the heap leach pads and OISAs are already in place, as a result of prior operating permits.	NS
Biological Resources			
<u>Proposed Action</u> Vegetative Habitat The proposed expansion would result in a direct loss of approximately 380 acres of	S	1. At the end of the project, disturbed areas, including new access roads, should be re-contoured and re-seeded with an appropriate mixture of native plant species according to the Reclamation Plan. All desert tortoise-proof fences should be removed also according to the Reclamation Plan.	NS

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Table S-1 (continued)
Summary of Potential Environmental Effects and
Mitigation Measures, Proposed Mesquite Mine Expansion

Impact, by Environmental Topic	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
Biological Resources (continued)			
<u>Proposed Action (continued)</u> creosote/ desert pavement habitat, approximately 67 acres of microphyll woodland habitat, and approximately 45 acres of upland succulent habitat. Another 15 acres of microphyll woodland would be cut off from upstream water sources south of the proposed North Diversion Channel. Blue palo verde (<i>Cercidium floridum</i>) and desert ironwood (<i>Olneya tesota</i>), associated with these 3 plant communities would also be impacted. Suitable habitat for ribbed cryptantha and winged cryptantha was observed throughout the Proposed Action area, though	S	2. Access should be confined to approved routes to reduce impacts brought about by road proliferation. 3. All bladed vegetation and excavated materials should be stockpiled in such a manner that they do not obstruct the natural flow of water down wash systems. 4. Avoid destruction of vegetation, particularly cacti and patches of herbaceous plants, whenever possible. 5. Scarify all compacted soil (except desert pavement) upon completion of mining activities. This may be done by using rippers, discs, rakes or other appropriate equipment. 6. Storage of equipment, supply material, ores or any residue of the mining operation shall be accomplished in a manner that minimizes surface disturbance. 7. Approximately 1,440 acres of similar but higher-quality habitat would be preserved as part of compensation for the loss of desert tortoise habitat.	NS

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Table S-1 (continued)
Summary of Potential Environmental Effects and
Mitigation Measures, Proposed Mesquite Mine Expansion

Impact, by Environmental Topic	Level of Signifi- cance Without Mitigation	Mitigation Measures	Level of Signifi- cance With Mitigation
Biological Resources (continued)			
<u>Proposed Action (continued)</u> no individuals for these species were observed. Of these three habitat communities, microphyll woodland is considered the most sensitive because it provides potential habitat for several sensitive bird, reptile and mammal species. Of the approximately 82 acres of proposed impact to microphyll woodland, approximately 23 acres (heap leach pad expansion, Section 16) are already permitted and compensated for in accordance with previous environmental mitigation. Therefore, the Proposed Action will result in a net impact of approximately 59 acres of microphyll woodland (44 acres direct impact, 15 acres indirect).			

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Table S-1 (continued)

Summary of Potential Environmental Effects and
Mitigation Measures, Proposed Mesquite Mine Expansion

Impact, by Environmental Topic	Level of Signifi- cance Without Mitigation	Mitigation Measures	Level of Signifi- cance With Mitigation
Biological Resources (continued)			
<u>Proposed Action (continued)</u> CDFG Jurisdictional Streambed Microphyll woodland and desert washes are considered to be indicators of CDFG jurisdictional streambeds. Approximately 25.24 acres of such streambeds are found within the unpermitted areas of the Proposed Action, while an additional 39.87 acres are found in areas previously permitted for Mine expansion.	S	CDFG Jurisdictional Streambed Impacts to CDFG jurisdictional streambed shall be mitigated at a 3:1 ratio, in accordance with permits issued by CDFG under Sections 1600 <i>et seq</i> of the Fish and Game Code. It is anticipated that mitigation will involve preservation of an appropriate acreage of CDFG jurisdictional lands within the proposed 1,440 acres of compensation lands for desert tortoise habitat.	NS

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Table S-1 (continued)
**Summary of Potential Environmental Effects and
Mitigation Measures, Proposed Mesquite Mine Expansion**

Impact, by Environmental Topic	Level of Signifi- cance Without Mitigation	Mitigation Measures	Level of Signifi- cance With Mitigation
Biological Resources (continued)			
<u>Proposed Action (continued)</u> Endangered Species Desert Tortoise Approximately 693 acres of desert tortoise habitat (BLM Category II and III) will be disturbed as a result of the proposed expansion. The loss of this 693 acres of potential habitat from the proposed mine expansion would represent a significant direct impact on the desert tortoise. However, approximately 272 acres are currently compensated for under past Plans of Operation, or were disturbed prior to the listing of the desert tortoise. All of the acres in Section 16 are perm-itted and have been compensa-ted for under Biological Opin-ion (1-6-92-F-22). Therefore, no additional impacts are anticipated due to development of Sec. 16 lands.	S	<p>The following reasonable and prudent measures are proposed as necessary and appropriate to minimize the impacts of incidental take of desert tortoise:</p> <ol style="list-style-type: none"> 1. On-site biological supervision/ monitoring, along with clearance surveys and relocation efforts, shall be utilized to reduce the likelihood of harm/harassment to the desert tortoise. 2. Employee education programs, designated work areas, defined operational procedures, reclamation efforts, and a microphyll woodlands assessment shall minimize the impact of mine-related operations on both the desert tortoise and the species' associated habitat. <p>To be exempt from the prohibitions of Section 9 of the Act, compliance must meet with the following terms and conditions. These implement the reasonable and prudent measures described above and outline required reporting/monitoring requirements. These terms and conditions are non-discretionary.</p> <ol style="list-style-type: none"> 1. Compensation for loss of habitat is necessary according to BLM requirements. Current requirements are based on a formula presented in <u>Recommendations for Management of the Desert Tortoise in the California Desert</u> (BLM, 1988), Instruction Memorandum CDD93-13, Instruction Memorandum CDD95-14, and Compensation for the Desert Tortoise, Desert Tortoise Management Oversight Group, 1999. The project proponent shall choose one of the following: 1) Acquire compensation lands. They will be located in the Chuckwalla Bench Area of Critical Environmental Concern (ACEC). The deed for these lands is to be delivered to the BLM. Or the project proponent shall 2) provide adequate funds (the amount to be determined by the BLM) to the BLM for the acquisition of compensation lands. These lands will be located in the Chuckwalla Bench 	NS

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Table S-1 (continued)
Summary of Potential Environmental Effects and
Mitigation Measures, Proposed Mesquite Mine Expansion

Impact, by Environmental Topic	Level of Signifi- cance Without Mitigation	Mitigation Measures	Level of Signifi- cance With Mitigation
Biological Resources (continued)			
<u>Proposed Action (continued)</u> Desert Tortoise (continued) A total of 421.6 acres of impacts to tortoise have not been compensated, and would be new impacts associated with implementation of the Proposed Action.		<p>ACEC. The last choice is for the project proponent to 3) make permanent improvements to desert tortoise habitat. This must be upon agreement with the Fish and Wildlife Service (the Service), CDFG and BLM. For the Proposed Action the compensation ratio in Category III habitat is 1:1 (130 acres in Category III habitat; 130 acres to be compensated); in Category II habitat the ratio is 4.5:1 (291 acres in Category II habitat; 1,310 to be compensated) for a total of 1,440 acres to be compensated. For the reduced footprint Alternative the compensation ratio in Category III habitat is 1:1(109 acres in Category III habitat; 109 acres to be compensated); in Category II habitat the ratio is 4.5:1 (246 acres in Category II habitat; 1,107 to be compensated) for a total of 1,216 acres to be compensated. The mine operator must work closely with the BLM in selecting the lands most benefiting the conservation and recovery efforts. Compensation requirements shall be agreed upon prior to permitting.</p> <p>2. The Mine operator shall designate a field contact representative (FCR) who will be responsible for overseeing compliance with protective measures for the desert tortoise, involved in compliance coordination with the BLM, and authorized to halt any mine-related actions that may be in violation of the biological opinion. The FCR (a contract biologist, company environmental coordinator, project manager, or other appropriate mine employee) shall retain a copy of the tortoise stipulations and be available on-site for all project activities.</p> <p>3. Only the authorized biologist and other persons confirmed by the Fish and Wildlife Service, under the auspices of the current biological opinion, shall be permitted to handle/relocate desert tortoises. The Service and BLM must approve the wildlife biologist who must demonstrate experience in the proper handling of desert tortoises</p>	

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Table S-1 (continued)
**Summary of Potential Environmental Effects and
Mitigation Measures, Proposed Mesquite Mine Expansion**

Impact, by Environmental Topic	Level of Signifi- cance Without Mitigation	Mitigation Measures	Level of Signifi- cance With Mitigation
Biological Resources (continued)			
<u>Proposed Action (continued)</u> Desert Tortoise (continued)		<p>and locating tortoises and their sign. The BLM shall submit the names and credentials of individuals to the Service for review and approval at least 15 days prior to the onset of any mine-related operations. No excavation/ surface disturbing activities will commence until the authorized biologist has been selected. A biological monitor or the authorized biologist shall be present during all surveying efforts (excluding archaeological work), any power line construction, overbuilding activities, pipeline installation, water well excavation, or road realignments. The qualified biologist must have education/ training/ experience in conducting surveys, monitoring/supervising project operations, and implementing tortoise avoidance and minimization measures.</p> <p>4. The biological monitor/ authorized biologist shall regularly inspect (a minimum of three times per day) any test holes or associated open trenches, if any. Entrapped tortoises/wildlife will be permitted to move from harm's way or carefully removed from the excavation site by the authorized biologist. A final inspection of trenches and holes shall be conducted by the biological monitor/ authorized biologist just prior to backfilling. All test holes shall be immediately capped/sealed upon completion of drilling.</p> <p>5. Desert tortoises may only be handled by the authorized biologist or FCR in the case of an emergency, and only when necessary. Any desert tortoise relocated or otherwise removed from areas with mine-related construction/ excavation shall be handled in accordance with the procedures described in <i>Guidelines for Handling Desert Tortoises During Construction Projects</i> (DTC 1994, revised 1999). All tortoises shall be translocated to an identified tortoise relocation site.</p>	

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Table S-1 (continued)
**Summary of Potential Environmental Effects and
Mitigation Measures, Proposed Mesquite Mine Expansion**

Impact, by Environmental Topic	Level of Signifi- cance Without Mitigation	Mitigation Measures	Level of Signifi- cance With Mitigation
Biological Resources (continued)			
<u>Proposed Action (continued)</u> Desert Tortoise (continued)		<p>6. BLM, in consultation with the appropriate regulatory agencies and the proponent, will identify several areas for the relocation of tortoises within the vicinity of the Mesquite Mine. These relocation areas will be at least 0.5-1.0 mile apart in suitable microphyll wood-land habitat and a reasonable distance from paved roads and extensively used dirt roads. In order to reduce potential competition, no more than two tortoises should be relocated in each area.</p> <p>7. The authorized biologist shall maintain a complete record of every desert tortoise encountered and moved from harm's way during all mine-related efforts. At a minimum, the information shall include: location (written description and map) of the tortoise finding, date and time of observation, and details of the relocation site; tortoise life history information (i.e., weight, length, width, height, and sex); general condition and health, including any apparent injuries/state of healing and occurrence of bladder voiding upon handling; and diagnostic markings (e.g., identification number or previously marked lateral scute).</p> <p>8. Desert tortoises removed/relocated from the mine site or ancillary areas shall be marked for future identification. An identification number (using the acrylic paint/epoxy technique) will be affixed to the fourth costal scute (Service 1990b), and a 35 mm photograph (slide) of the carapace, plastron, and fourth left costal scute shall be obtained. No notching or replacement of fluids by injection (i.e., syringe) shall be authorized. Any water basins, bowls, or other containers provided to a tortoise for re-hydration shall be promptly removed from the field following determination by the authorized biologist that adequate fluid replacement has occurred.</p>	

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**Summary of Potential Environmental Effects and
Mitigation Measures, Proposed Mesquite Mine Expansion**

Impact, by Environmental Topic	Level of Signifi- cance Without Mitigation	Mitigation Measures	Level of Signifi- cance With Mitigation
Biological Resources (continued)			
<u>Proposed Action (continued)</u> Desert Tortoise (continued)		<p>9. Upon locating a dead or injured desert tortoise, BLM will be notified within 24 hours. The BLM must then notify the appropriate field office of the Service by telephone within three days of the finding. Written notification to BLM and USFWS must be within 15 days of the finding. The information provided must include the date and time of the finding or the incident (if known); location of the carcass; a photograph; cause of death, if known; and other pertinent information. Desert tortoise remains shall be collected, frozen as soon as possible, and delivered to the BLM. Injured animals shall be transported to a qualified veterinarian for treatment at the expense of the project proponent. If an injured animal re-covers, the Service should be contacted for final disposition of the animal.</p> <p>10. The authorized biologist shall a summary report to the Service and BLM upon completion of the clearance surveys, relocation/ handling efforts, and any injuries/ deaths encountered during mine-related activities. Additionally, the report will include an evaluation of the effectiveness of the avoidance/ minimization measures and possible recommendations to further reduce the direct/indirect effects of the mining operations on desert tortoise and its associated habitat.</p> <p>11. A raven monitoring program shall be conducted over the project's lifetime to determine whether mining actions pro-mote an increase in the relative abun-dance of ravens, and, correspondingly, a higher predation rate on desert tortoise. Five monitoring stations will be established within and around the proposed site (i.e., the center and each corner) and visited on a monthly basis. The program shall commence at least 1-year prior to any project-related surface disturbance. During a standard observation period (15 min.), the biological monitor, authorized biologist, FCR, or other Service and BLM approved individual shall record raven numbers and behavior and inspect any nest sites</p>	

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Table S-1 (continued)
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Mitigation Measures, Proposed Mesquite Mine Expansion**

Impact, by Environmental Topic	Level of Signifi- cance Without Mitigation	Mitigation Measures	Level of Signifi- cance With Mitigation
Biological Resources (continued)			
<u>Proposed Action (continued)</u> Desert Tortoise (continued)		<p>for desert tortoise remains, along with documenting all carcasses found (i.e., number, size, relative time of death, and distance from nest). A report will be submitted to the Service and BLM before July 1st of each year, summarizing the monitoring results. A comprehensive raven management program shall be developed and instituted in the event that significant increases in raven numbers are observed over time.</p> <p>12. A desert tortoise education program shall be presented to all mine employ-ees conducting activities at the project site, process area, or ancillary facilities. Personnel participation in the program shall precede any initiation of project actions. Following the onset of mining, new employees must formally complete the training prior to working on-site. The BLM-approved tortoise program will contain, at a minimum, the following topics: (1) desert tortoise distribution/ occurrence; (2) general behavior and ecology; (3) species' sensitivity to human activities; (4) legal protection; (5) penalties for violation of State or Federal laws; (6) reporting requirements.</p> <p>13. A specially designed tortoise proof fence shall be constructed around proposed disturb-ance areas. The fence will consist of a non-breachable barrier and support structures. Galvanized hardware cloth of 0.635 cm (0.25 in) diameter shall be attached along the base of the fence and buried a mini-mum of 30 cm (12 in) underground with an above-ground extension of at least 46 cm (18 in). If burial is not feasible, the bottom one-half of the fence shall be positioned flat on the ground, opposite the project/ process area, and appropriately weighted (e.g., large rocks) or secured. Overall, the smaller 0.635 cm (0.25 in) mesh size was selected to prevent tortoise entry into the mine site and minimize the likelihood of incidental reptile mortality. Fence-ensnared lizards could attract ravens and potentially /artificially increase predation upon the resident tortoises.</p>	

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**Summary of Potential Environmental Effects and
Mitigation Measures, Proposed Mesquite Mine Expansion**

Impact, by Environmental Topic	Level of Signifi- cance Without Mitigation	Mitigation Measures	Level of Signifi- cance With Mitigation
Biological Resources (continued)			
<u>Proposed Action (continued)</u> Desert Tortoise (continued)		<p>14. After fence installation, the authorized biologist shall conduct a thorough survey for desert tortoises within the site. All desert tortoises found shall be removed. If the removal is during the season of above ground activity, the desert tortoises shall be placed beside a burrow of appropriate size. If the re-moval is not in the season of above ground activity, the tortoise shall be moved (dug out of burrow if necessary) on a seas-onably warm day and placed at the mouth of a burrow of appropriate size. If the desert tortoise does not en-ter the burrow, an artificial burrow may be needed. The authorized biologist shall be allowed some judgement and discretion to ensure that survival of the desert tortoise is likely. All tortoises shall be relocated to identified areas.</p> <p>15. No later than 90 days after completion of fence construction, the FCR and the author-ized biologist shall prepare a report for the BLM. The report shall document the effec-tiveness and practicality of the mitigation measures. Additionally, it shall include the number of desert tortoises excavated from burrows, the number of desert tortoises moved from the site, the relocation site(s), the number of desert tortoises killed or injured, and the specific information for each desert tortoise listed above. The report shall make recommendations for modifying the stipulations to enhance desert tortoise protection or to make it more workable for the operator.</p> <p>16. The fence shall be regularly monitored nd corrective action promptly taken to maintain the overall integrity of the tortoise barrier. Following storms, the fence's structure shall be assessed and immediately repaired at all damaged locations.</p> <p>17. In washes and other areas susceptible to flash flooding, "break-away" tortoise fabric may be installed. These segments shall be loosely tied to the fence on higher ground, permitting the fabric to "break-away" in the event of substantial surface flows.</p>	

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Mitigation Measures, Proposed Mesquite Mine Expansion**

Impact, by Environmental Topic	Level of Signifi- cance Without Mitigation	Mitigation Measures	Level of Signifi- cance With Mitigation
Biological Resources (continued)			
<u>Proposed Action (continued)</u> Desert Tortoise (continued)		<p>18. Small mesh nets, a solid high density polyethylene/polypropylene cover, or other appropriate screening shall be placed over the leach pad's adjoining ponds (i.e., pregnant and barren solu-tion ponds) to prevent tortoise access and possible injury/mortality. The coverings will be regularly inspected and maintained by the Applicant for the duration of the project.</p> <p>19. During the development of all ancillary facilities/features (i.e., power lines, pipeline, water wells, or road realignments) all vehicles and equip-ment shall be limited to estab-lished roads, designated/marked spur roads, trails, and approved rights-of-way. To the maximum extent practicable, material stockpiling, equipment storage, and vehicle parking shall occur in areas of prior disturbance or generate not greater than 0.4 ha (1 acre) of new surface impacts. Additionally, to minimize surface disturbance to the surrounding habitat, the boundaries of the work area shall be conspicuously staked, flag,ged or marked. For all project-related actions, the crushing/removal of perennial vegetation shall be avoided to the maximum extent practicable.</p> <p>20. Any project-related vehicle or equip-ment operating on the mine's ancillary/non-haul roads shall not exceed a speed limit of 25 mph. The project proponent will be respon-sible for enforcing this speed require-ment on its employees, contractors, and agents. Additionally, cross-country or off-road travel will not be permitted at any time, except under life threatening/ emergency situations.</p> <p>21. Employees shall inspect beneath parked vehicles and equipment prior to traveling. If a desert tortoise is encountered, no action shall be taken until either the animal has safely and voluntarily moved away from the parked vehicle or the authorized biologist has relocated the tortoise out of harm's way.</p>	

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Summary of Potential Environmental Effects and
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Impact, by Environmental Topic	Level of Signifi- cance Without Mitigation	Mitigation Measures	Level of Signifi- cance With Mitigation
Biological Resources (continued)			
<u>Proposed Action (continued)</u> Desert Tortoise (continued)		<p>22. If it is necessary for a worker to park temporarily outside of a cleared enclosure, the worker shall inspect for desert tortoises under the vehicle prior to moving it. If a desert tortoise is present, the worker shall carefully move the vehicle only when necessary or shall wait for the desert tortoise to move out from under the vehicle.</p> <p>23. Desert tortoise notification and speed limit signs shall be posted and maintained within the project's boundaries. Employee parking areas will have con-spicuous signs alerting personnel to the presence of tortoises. Speed limits shall be posted within the mine site and along all regularly traveled ancillary/non-haul roads.</p> <p>24. The BLM, in consultation with the Service, shall preapprove the type(s) of chemical dust suppres-sant(s) used on haul/maintenance /access roads prior to their application.</p> <p>25. All trash and food items shall be promptly stored in raven and coyote proof containers and regularly conveyed from the mine site. Project structures/ design will minimize the potential for raven nest or perch sites and no mining features (e.g., other buildings, power/ water line enhancements, etc.) beyond the scope of the currently proposed action shall be approved or authorized.</p> <p>26. Structures that may function as raven nesting or perching sites are not authorized except as specifically stated in the plan of operation notice. The project proponent shall describe anticipated structures to the BLM during initial project review.</p> <p>27. No pets shall be permitted at the project site, process area or ancillary facilities, at any time. Furthermore, firearms will be strictly prohibited, except for security personnel.</p>	

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Mitigation Measures, Proposed Mesquite Mine Expansion**

Impact, by Environmental Topic	Level of Signifi- cance Without Mitigation	Mitigation Measures	Level of Signifi- cance With Mitigation
Biological Resources (continued)			
<u>Proposed Action (continued)</u> Desert Tortoise (continued)		<p>28. Road kill found along the mine's primary access way shall be promptly removed/buried to reduce the attraction of ravens and other potential tortoise predators to the area. In addition, no feeding of coyotes, kit foxes, or ravens shall be allowed.</p> <p>29. Upon completion of the Mesquite Mine Project, all mine-related materials and vehicles/equipment shall be promptly removed from the site. Machinery and personnel involved with the mine's subsequent reclamation shall only be permitted in the project area during the course of revegetation efforts. Once reclamation measures have been implemented, no associated equipment and supplies will be allowed to be relocated the tortoise out of harm's way.</p>	
Bat Species Suitable roosting habitat was not present within any of the proposed expansion areas, however all of the areas are considered to be suitable as foraging habitat. Three known/potential roosting sites were identified in the region.	NS	Reclamation of microphyll woodland done concurrently with mine development may reduce impacts, if any, to California leaf-nosed bat, Greater Western Mastiff bat, small-footed Myotis, Desert pallid bat, spotted bat, and Townsend's Big-eared bat.	NS

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**Summary of Potential Environmental Effects and
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Impact, by Environmental Topic	Level of Signifi- cance Without Mitigation	Mitigation Measures	Level of Signifi- cance With Mitigation
Biological Resources (continued)			
<u>Proposed Action (continued)</u> Western Chuckwalla Approximately 25 acres of habitat for the western chuckwalla were observed within proposed expansion areas. No individuals were observed, but based on past observations of chuckwalla in the vicinity, it is possible that a population exists within the Proposed Action area. A loss of chuckwalla habitat may occur.	NS	Western Chuckwalla 1. Avoid chuckwalla habitat whenever possible. 2. Ensure that chuckwalla habitat that is avoided will have a corridor of an undisturbed lands connecting to habitat offsite. These avoidance and connection areas will be identified on a map prior to permitting.	NS
Mule Deer Approximately 82 acres (67 acres directly, 15 acres indirectly) of Microphyll Woodland will be disturbed as a result of the proposed expansion. A loss of mule deer habitat may occur including movement corridors, forage and cover.	NS	Mule Deer 1. A mule deer fence, whose design is approved by the game branch of CDFG, should be installed along the entire perimeter of the mine property. Fences will be routinely checked for breaks. 2. Attractive water will be fenced, contained, or otherwise made unavailable to mule deer. These deterrents will be routinely checked to assure mule deer cannot access these water sources. Death of a mule deer on the mine will be reported to CDFG within one week of occurrence.	NS

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Impact, by Environmental Topic	Level of Signifi- cance Without Mitigation	Mitigation Measures	Level of Signifi- cance With Mitigation
Biological Resources (continued)			
<u>Proposed Action (continued)</u> Ecological Risk Assessment <p>There is a potential that the pit lake water could harm the health of animals attracted to it. The study found that salinity will limit the use of the water for drinking. However, some chemicals of concern (boron, silver, fluoride, selenium) would concentrate in any plants that would grow adjacent to the lakes, and thus be available for transfer through the dietary pathway of the food chain.</p>	S	Ecological Risk Assessment <p>Impacts from the dietary pathway will be minimized through design and construction of the pit walls. By making the pit walls as steep as practicable at the levels above and below the projected steady state pit lake water level, vegetative growth adjacent to the lakes will be minimized, thus minimizing harm to birds and animals through ingestion of harmful compounds. This will also minimize habitat creation near the lakes.</p>	NS
<u>Reduced Footprint Alternative</u> <p>Impacts to biological resources from this Alternative would be similar, but slightly less, than those of the Proposed Action. For example, this Alternative</p>	S	<p>The same as the Proposed Action, except that compensation for destruction of desert tortoise habitat would require transfer of approximately 1,211 acres, 167 acres less than for the Proposed Action. Also the area of microphyll woodland and Waters of the U.S. affected are estimated to be slightly less for this Alternative, 58 acres and 22 acres, respectively. The actual acreage of Waters of the U.S. will be determined by the ACOE, in the Section 404 process.</p>	NS

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Mitigation Measures, Proposed Mesquite Mine Expansion

Impact, by Environmental Topic	Level of Signifi- cance Without Mitigation	Mitigation Measures	Level of Signifi- cance With Mitigation
Biological Resources (continued)			
<u>Reduced Footprint Alternative (continued)</u> would require compensation for impacts to 355.4 acres of desert tortoise habitat, a decrease of approximately 66 acres from the Proposed Action. It would also impact 1 acre less of microphyll woodland, and may impact 3 fewer acres of Waters of the U.S. All other impacts of this Alternative are very similar to those of the Proposed Action.			
<u>No Project/ No Action Alternative</u> This Alternative would avoid the direct loss of up to 380 acres of creosote/desert pavement habitat, 67 acres of microphyll woodland habitat, and 45 acres of upland hab-itat. It would avoid direct impacts to desert tortoise and fairy duster species, and the loss of habitat to several other species. In addition, it would avoid impacts to any areas under ACOE or CDFG jurisdiction.	NS	None required.	NS

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Mitigation Measures, Proposed Mesquite Mine Expansion

Impact, by Environmental Topic	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
Cultural Resources			
<u>Proposed Action</u> No cultural resources were identified that met requirements for eligibility to the National Register of Historic Places	NS	None required.	NS
<u>Reduced Footprint Alternative</u> Same as Proposed Action.	NS	None required.	NS
<u>No Project/ No Action Altern.</u> No additional area would be disturbed outside areas that are currently permitted.	NS	None required.	NS
Paleontological Resources			
<u>Proposed Action</u> No paleontological resources exist at the site.	NS	None required.	NS
<u>Reduced Footprint Alternative</u> Same as Proposed Action.	NS	None required.	NS

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Impact, by Environmental Topic	Level of Signifi- cance Without Mitigation	Mitigation Measures	Level of Signifi- cance With Mitigation
Paleontological Resources (continued)			
<u>No Project/ No Action Altern.</u> No additional area would be disturbed outside areas that are currently permitted.	NS	None required.	NS
Transportation			
<u>Proposed Action</u> No more than 20 or 30 additional employees would be required for the expansion. This would cause a negligible increase in traffic on SR 78.	NS	None required.	NS
<u>Reduced Footprint Alternative</u> Same as Proposed Action.	NS	None required.	NS
<u>No Project/ No Action Alternative</u> The mine would be closed and the 164 existing employees would be laid off. This would decrease traffic on SR 78.	B	None required.	B

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Summary of Potential Environmental Effects and
Mitigation Measures, Proposed Mesquite Mine Expansion

Impact, by Environmental Topic	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
Noise			
<u>Proposed Action</u> Mine employees and visitors could possibly be affected by onsite noise levels.	NS	Mine operation must comply with federal and state laws governing worker safety, including prevention of noise impacts to employees and visitors. These safety procedures are in effect now, and would continue with any Mine expansion.	NS
Visitors to the interpretive trail could hear noise from mine operations.	NS	None required. Noise heard by visitors would not change substantially from existing conditions.	NS
<u>Reduced Footprint Alternative</u> Same as Proposed Action.	NS	None required.	NS
<u>No Project/ No Action Altern.</u> The mine would be closed. Following closure and reclamation procedures, the Mine site would be quiet.	B	None required.	B
Air Quality			
<u>Proposed Action</u> Potential carcinogenic & non-carcinogenic health effects.	NS	None required.	NS

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Impact, by Environmental Topic	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
Air Quality (continued)			
<u>Proposed Action</u> Potential impacts to air quality from fugitive PM10 emissions from mine pit excavation, haul roads, heap leach pads, and OISAs.	S	PM10 air pollution control measures at the Mine will continue to use the following : <ul style="list-style-type: none"> • Wet drilling • Use of an enclosed baghouse for load-ing and unloading of lime • Enhanced watering of unpaved roads and activity areas (digging, handling and plac-ing of overburden/interburden and ore) • Monitoring of PM10 concentrations at four perimeter stations on a 24-hour basis, to assure that no excessive fugitive PM10 travels off-site. • Use of chemical dust suppressants 	CS
Potential impacts to air quality from emissions of mobile sources including loaders, haul trucks, cranes, etc.	NS	The Mine will continue a vigorous mobile equipment maintenance program to assure that the equipment is in good working condition, thus minimizing emissions.	NS
Potential emissions from onsite point sources, including fuel tanks, an electric smelting furnace, carbon kiln, a boiler, and an electrowinning cell.	NS	No additional mitigation measures required.	NS
<u>Reduced Footprint Alternative</u> Same as Proposed Action.	S, NS	Same as above for the Proposed Action.	NS

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Air Quality (continued)			
<u>No Project/ No Action Altern.</u> Until closure, emissions for this alternative would be similar to those of the Proposed Action.	S, NS	Same as identified above for the Proposed Action	CS
Termination of mining operations in 2001 instead of 2006 would marginally contribute to attainment of air quality standards.	B	None required.	B
Land Use			
<u>Proposed Action</u> The project would result in no significant impact to land use.	NS	None required.	NS
<u>Reduced Footprint Alternative</u> Same as Proposed Action.	NS	None required.	NS
<u>No Project/ No Action Altern.</u> The mine would be closed. Following closure and reclamation procedures, the Mine site would be returned to use as habitat.	NS	None required.	NS

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Impact, by Environmental Topic	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
Recreational Resources			
<u>Proposed Action</u> The project would result in no significant impact to recreational resources or activities.	NS	None required.	NS
<u>Reduced Footprint Alternative</u> Same as the Proposed Action.	NS	None required.	NS
<u>No Project/ No Action Altern.</u> There would be no impact to recreational resources/activities.	NS	None required.	NS
Visual Resources			
<u>Proposed Action</u> Night lighting at the Mine could adversely affect the vision of Marine pilots at CMAGR.	S	Applicant shall ensure that project lighting is pointed toward the ground and not at sensitive receptors.	NS
Night lighting could affect drivers on SR 78 and campers near Glamis and Boardmanville.	S	Applicant shall ensure that project lighting is pointed toward the ground and not at sensitive receptors.	NS

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Visual Resources (continued)			
<u>Proposed Action (continued)</u> Some of the OISA expansions will be located closer to SR 78. This will increase the observed size of these mounds incrementally over the OISAs already permitted.	NS	Applicant shall construct the proposed Mine expansion so that it resembles a natural landform to the extent practicable.	NS
Cumulative impacts associated with implementation of the unbuilt Mesquite Regional Landfill.	CS	Significant, unmitigable impacts are anticipated to result from the Landfill Project. No mitigation would be effective in reducing the cumulative impact level of the Landfill Project plus the proposed Mine expansion, to less than significant.	CS
<u>Reduced Footprint Alternative</u> Same as the Proposed Action.	S, NS, CS	None required.	NS, CS
<u>No Project/ No Action Altern.</u> Following closure of the Mine, no night lighting would be needed.	NS	None required.	NS
OISAs and heap leach pads would continue to be enlarged, under existing permit conditions.	NS	None required.	NS

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Impact, by Environmental Topic	Level of Signifi- cance Without Mitigation	Mitigation Measures	Level of Signifi- cance With Mitigation
Environmental Health and Safety			
<u>Proposed Action</u> The Project potentially could result in impacts to environmental health and safety related to Mine blasting and use of heavy equipment, the cyanide heap leaching process, the gold recovery process, improper handling of domestic or industrial wastes, the transport and storage of chemical reagents and explosives, on-site accidents, mine equipment traffic accidents, and mine reclamation.	S	Applicant shall incorporate environmental health and public safety protection measures required by local, State, or federal regulations into the design and operation	NS
<u>Reduced Footprint Alternative</u> Same as Proposed Action.	S	Applicant shall continue to incorporate environmental health and public safety protection measures required by local, State, or federal regulations into the operation and closure.	NS
<u>No Project/ No Action Altern.</u> The Mine would be closed, but until then would be operated and closed in accordance with all applicable laws/regulations.	NS	None required.	NS

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Impact, by Environmental Topic	Level of Signifi- cance Without Mitigation	Mitigation Measures	Level of Signifi- cance With Mitigation
Socioeconomics			
<u>Proposed Action</u> The Project would continue existing employment of 164 personnel until approximately 2006, and would add from 20-30 new staff members as well. This would result in continued and increased personal income, local sales and property taxes, and mineral extraction royalties to the State.	B	None required.	B
<u>Reduced Footprint Alternative</u> Same as Proposed Action.	B	None required.	B
<u>No Project/ No Action Altern.</u> The mine would be closed and the 164 existing employees would be laid off. This would decrease personal income and government revenues within the area.	SU	No mitigation is available or possible.	SU

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Impact, by Environmental Topic	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
Public Services and Utilities			
<u>Proposed Action</u> The Mesquite Mine is open and functioning as it has for the past 15 years. Public services and utilities to serve it are already in place, and would not require any substantive additions to accommodate the Proposed Action.	NS	Applicant shall supply all MSHA and Cal MSHA-required training, supplies, equipment Applicant shall provide precipitation drainage facilities per Water Resources mitigation. Applicant shall provide on-site security, fire protection services, and medical services. Applicant shall provide a six- to eight-foot high industrial fence, except where existing fencing can be utilized. All proposed expansion areas would be fenced where necessary for security and to avoid unauthorized entry. All new fencing surrounding the proposed Mine expansion site would be constructed per BLM specifications for tortoise fencing. Existing fencing would be further improved if required to successfully conclude consultation under Sec. 7 of the Endangered Species Act.	NS
<u>Reduced Footprint Alternative</u> Same as the Proposed Action.	NS	None required.	NS
<u>No Project/ No Action Altern.</u> The Mine would be closed, but until then it would utilize existing utility infrastructure, and Mine provided security and fire-fighting personnel. No additional utilities or services would be required.	NS	None required.	NS

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